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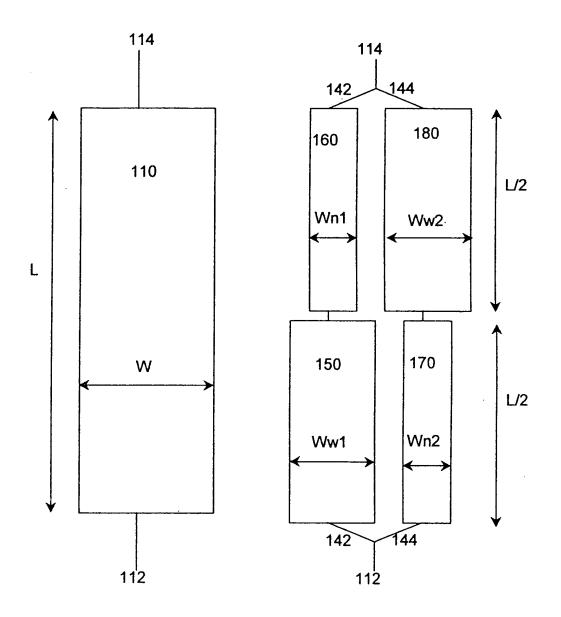
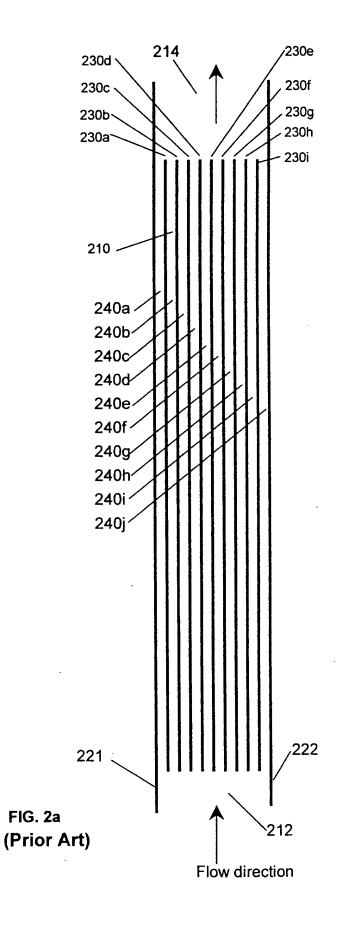
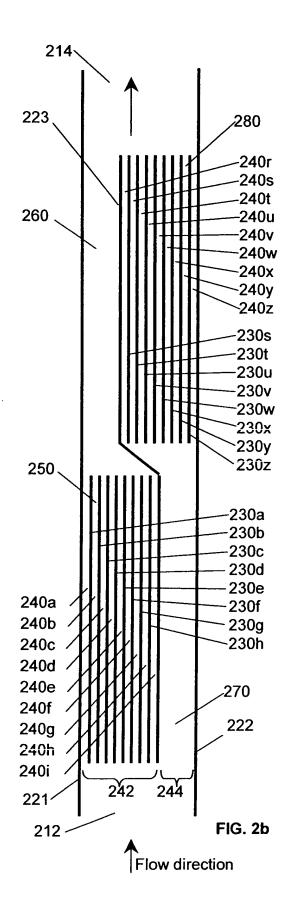
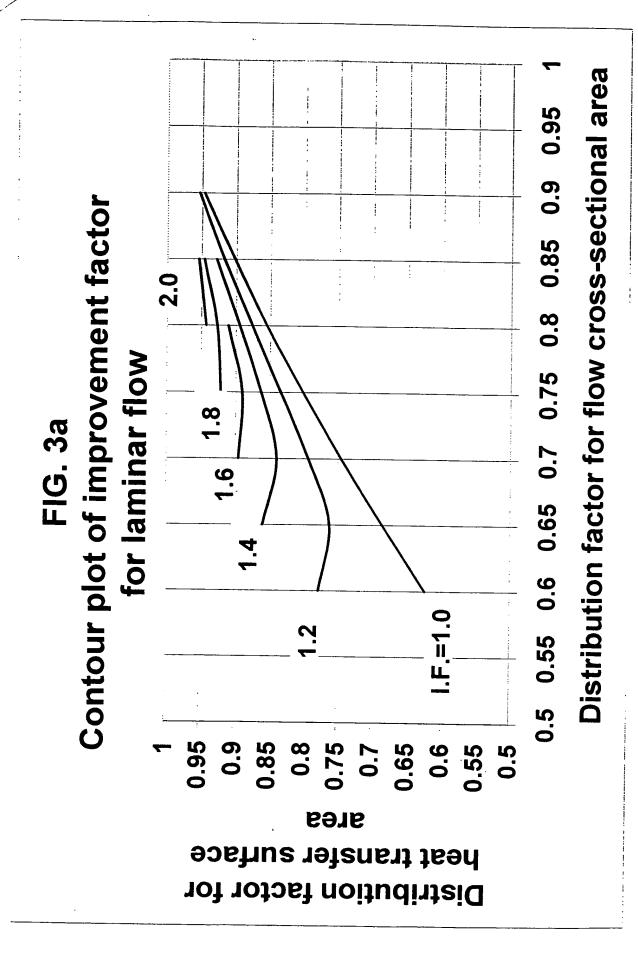


FIG. 1a (Prior Art)

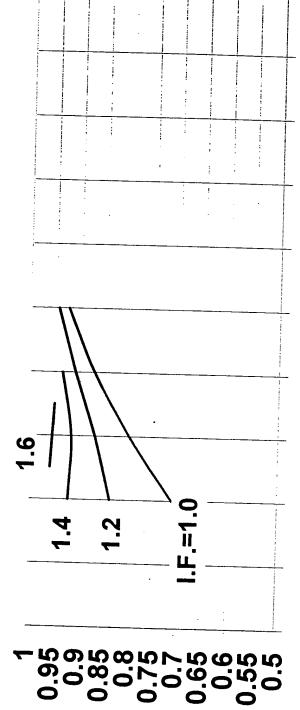
FIG. 1b







Contour plot of improvement factor for turbulent flow FIG. 3b



surface area

for heat transfer

Distribution factor

0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95

Distribution factor for flow cross-sectional

area

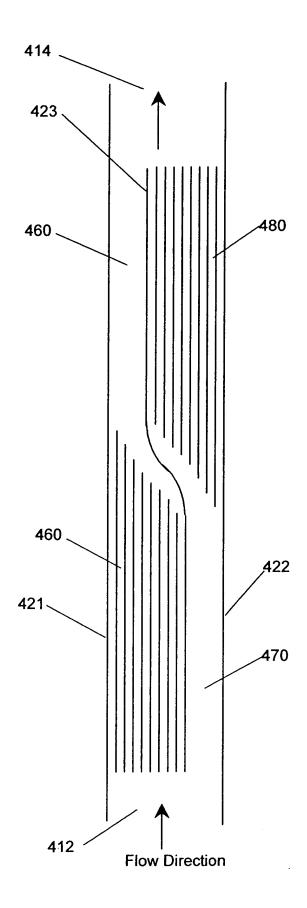


FIG. 4

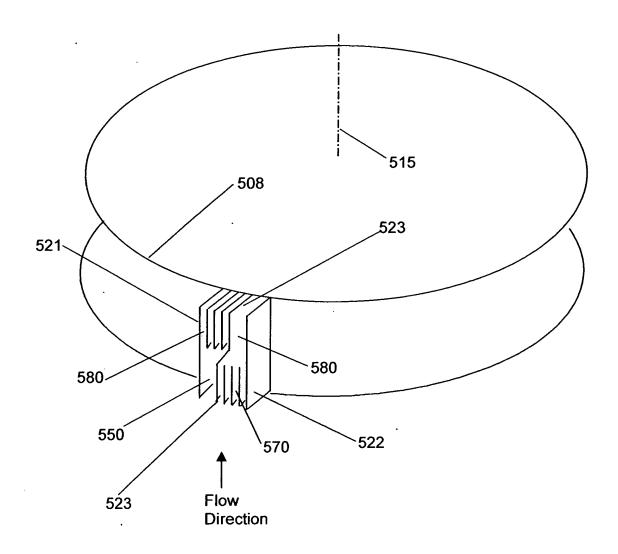
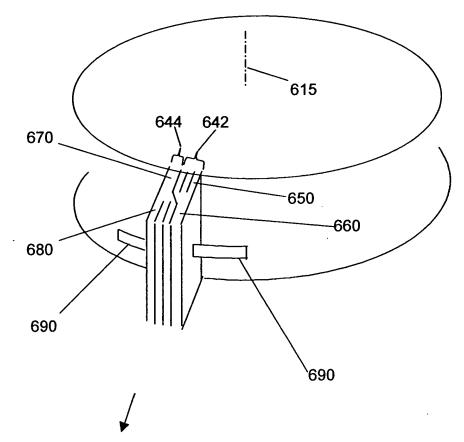


FIG. 5



Flow Direction

FIG. 6

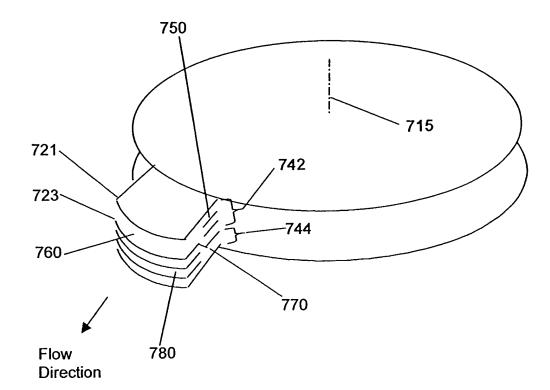


FIG. 7

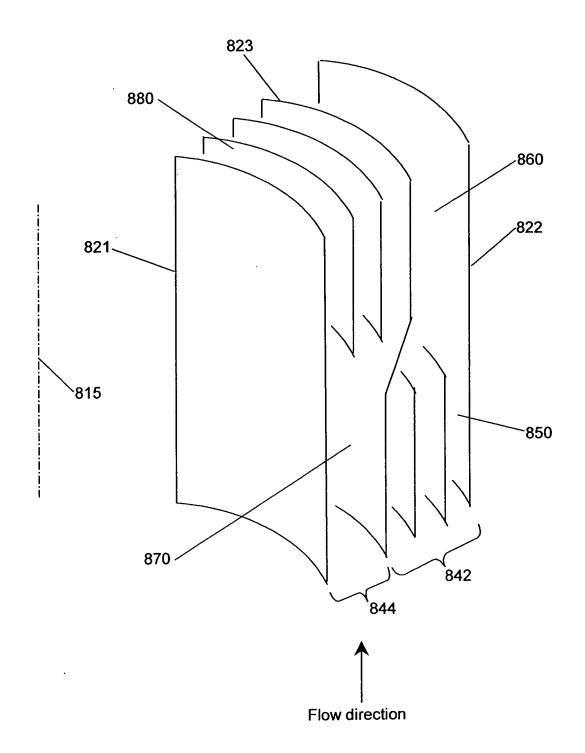


FIG. 8

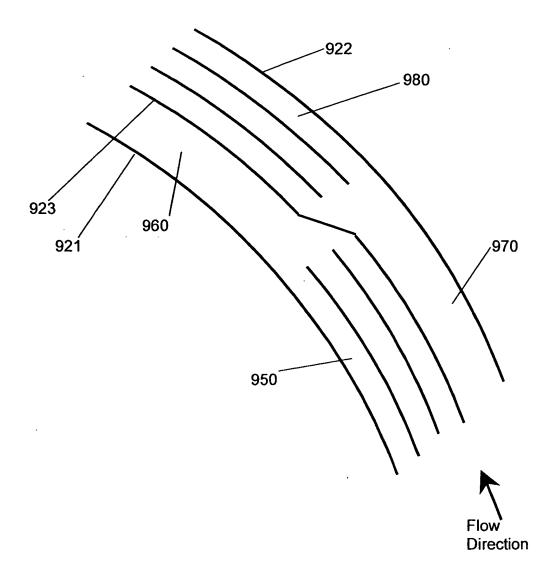


FIG. 9

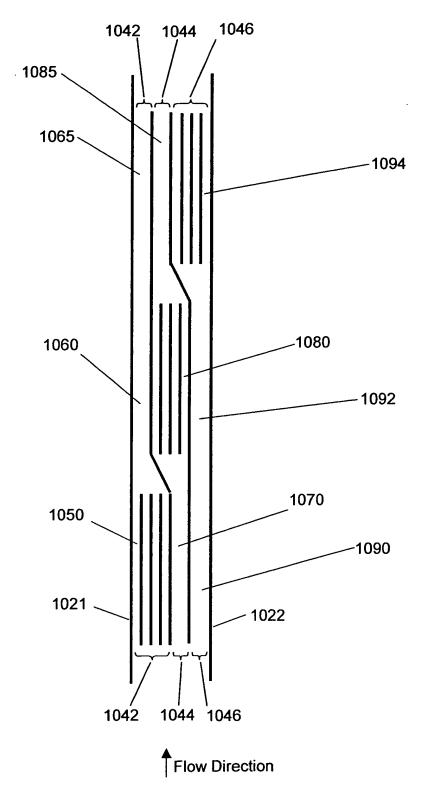


FIG. 10

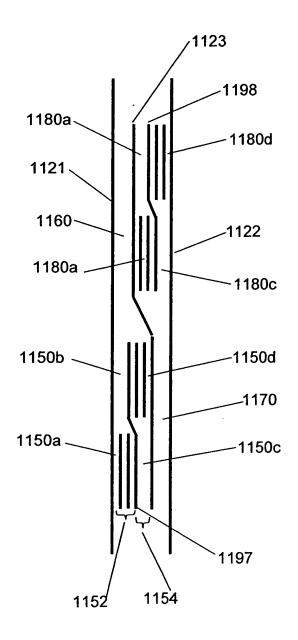


FIG. 11